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ABSTRACT

Since the medical interview is usually considered to be the basis of all diagnosis and treatment in medicine, this study investigated alternative ways of improving medical interview techniques. To test the hypothesis that the visual (videotape) technique would be more effective than the lecturing or audiotape technique, 12 videotaped interviews were made between a physician and various professional models who served as patients, and a postgraduate course in medical interviewing was developed. After the course, an evaluation was made of the content-learning gain and also of the attitudinal changes in training. The programed instruction in medical interviewing was found to be as effective as two alternative instructional methods in meeting its teaching goals, and the evidence suggested that it was more effective. (BC)

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Contract Title: EVALUATION OF PROGRAMMED INSTRUCTION TECHNIQUES IN MEDICAL INTERVIEWING

Contractor: Department of Psychiatry
University of Southern California
Los Angeles, California

Contract Number: PH 108-66-202

Period of Performance: June 15, 1966 to June 15, 1968

Contract Cost: $107,083

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I. Brief Summary of the Contract

A. Purpose, Scope, and Objectives

The purpose of the contract was to investigate ways of improving medical interview techniques since the medical interview is usually considered to be the basis of all diagnosis and treatment in medicine. The scope of work required the Contractor to develop videotapes which would demonstrate to the physicians the consequences of one or another kind of physician behavior during the medical interview. Since much useful data is communicated to the physician non-verbally during such sessions, the ability to observe sensitively and to create an atmosphere which encourages maximum communication (both of a verbal and non-verbal nature) is of major importance. The Contractor contended that, for these purposes, a visual (videotape) technique specifically developed for the instructor and presenting the proper technique of medical interviewing would be much more effective than the lecturing or audiotape techniques.

To evaluate this hypothesis, the Contractor agreed to perform the following activities:

1) Train a group of professional models and actors to respond in certain ways to different styles of interviewing, in order that physicians may observe the consequences of their own behavior in dealing with patients.

2) Design and develop a series of twelve videotaped interviews between a physician and the various professional models who will serve as patients (note: this technique was later expanded to utilize an actor as the interviewing physician also). These tapes, of twenty to thirty minutes duration each, would contain a series of four nodal points for decision, with alternate sequences illustrating a continuation of the interview on the basis of the decision made at the preceding nodal point of each interview.

3) Develop a postgraduate course in medical interviewing for physicians, utilizing the twelve "programmed" videotape interviews, and offer this course as a regular part of the USC postgraduate program.

4) Design and produce two research videotapes for use in testing "pre-" and "post-" training content-learning, each tape to consist of the "programmed" design embodied in the twelve regular training tapes but with at least twelve nodal points rather than the usual four.

5) Evaluate the program as to (a) content-learning gain and (b) attitudinal changes of physicians in training. Both of these categories would also be examined as to internal changes within the experimental and control groups and changes occurring between the experimental and control groups.

6) Measure attitude changes in role-perception as indicated by the Enelow and Adler role-perception scale, which is designed to determine the physician's concept of his role in his relationship with the patient.

B. Significant Findings and Conclusions

Contractor specifically deduced the following as a result of his research:

1) Programmed interviews have a demonstrated potential to achieve statistically significant learning gain.

2) Cognitive learning gain achieved by the programmed interview educational technique was greatest for non-psychiatrist practicing physicians (the principal target audience) and was also high for medical students (an audience for which the series was also intended).

3) Programmed interviews were demonstrated to be less effective in influencing attitudes toward the use of authority by physicians than in producing cognitive learning.

4) A postgraduate course utilizing the programmed interviews is at least as likely as one based upon patient interviews to be favorably received by course participant, especially if it is not the subject of intensive evaluation research, and

5) The most consistently unfavorable response to the programmed interviews came from a group in which videotapes were presented without an instructor.

To summarize, the Contractor stated: ". . . the evidence from this investigation indicates that 'programmed instruction in medical interviewing' is as effective as two alternate instructional methods in meeting its teaching goals, and suggests that it is more effective. The effectiveness of the series probably lies in the carefully organized instructional content. Instructors relying on spontaneously-occurring instructional material have more difficulty in presenting the total range of information about the interviewing principles included in the teaching goals, and in presenting it in an orderly fashion.

"Given at least equal effectiveness, the series has practical advantages which recommend its use. The instructor's work is made easier, especially in postgraduate courses offered far from the medical center.

The difficulites in finding appropriate patients willing to be interviewed before a group likewise are overcome.

"While the formal aspects of this investigation concerned only a comparison of teaching methods, . . . (negative) attitudes (on the part of some) instructors and students appeared to affect the success of the series . . . However, the ill effects of student dissatisfaction were not limited to the program interviews. When a second mode of instruction was offered under (similar) conditions of student dissatisfaction, its effectiveness was equally affected. . .

" . . . the programmed interviews were more effective than demonstration interviews in achieving the teaching goals with inexperienced instructors who had less adequately conceptualized, or who were in only partial agreement with these goals. (and)

" . . . there is considerable evidence to suggest that the programmed interviews are most effective and best received when they are offered as an introductory experience."

C. How Work Accomplished Measured up to Expectations

Work performed under the terms of the contract was performed in a highly competent manner and is consistent with the high standards of scientific validity required by such an effort. Scope of work was sufficiently specific to ensure that work performed by the Contractor would restrict itself primarily to a comparison of similar teaching methods suitable for application to the overall processes of continuing medical education. The function of evaluation of the effectiveness of the "programmed instruction" technique was correctly retained for performance under terms of another contract yet to be awarded, which is discussed under Section V.

D. Problems Encountered in Performance of Contract

No problems of note were encountered during the actual performance of this contract except that Allen J. Enelow, M.D., the originally designated project director, unexpectedly left the employ of the Contractor and was replaced by Leta McKinney Adler, Ph.D., on November 9, 1967. This resulted in a delay in the receipt of the final report on this project from its scheduled June 14, 1968, expiration date to October 1, 1968, when it was finally received by PHS. Although delayed for approximately 4-1/2 months, the report as finally submitted is considered to be a valid and well executed documentation of the subject project which has adequately justified the delay requisite to its preparation.

E. Estimated Total Cost to the Government

Performance of the contract resulted in a final cost to the government of $107,083. In addition, Contractor donated an estimated $4,000 worth of effort (1/3 of a year of the replacement project director's time) without reimbursement in order to complete the cited final report by Contractor.

II. Evaluation of the Project

A. Validity of the Results

Contractor is considered to have demonstrated, within scientifically valid parameters, that the technique of pre-programmed videotapes has parity if not superiority in comparison with other educational techniques for application in continuing medical education.

B. Specific quantitative evaluation of the findings of this contract project will be undertaken under the procedure listed in Section V prior to inclusion of this particular technique into Continuing Education Branch program plans relating to the continuing education process.

III. Dates of Site Visits in the Surveillance of this Project

November 5, 1966 - Site visit by Gerald Escovitz, M.D.,to examine completed prototype videotape. No problems noted.

March 10, 1967 - Dr. Escovitz again visited Contractor to discuss progress of contract. No problems noted.

December 9, 1968 - Mr. Clifford Allen (Executive Officer, DPM) visited Contractor (at Project Officer's request) to discuss (1) disposition of Government furnished property; (2) Contractor authority to provide copies of interview videotapes for other non-profit and profit organizations; and (3) necessity for Contractor to disseminate results of this contract effort to the general medical education community;

January 21, 1969 - Mr. Norman Tucker (Project Officer) and Alan S. Kaplan, M.D., (Acting Chief, CEB) visited Contractor to discuss findings and recommendations.

IV. Dissemination of the Results of this Study

Contractor has published a summary report of his activities in the journal Hospital Physician. The first installment of a three part serial was published in the August 1968 issue under the title of "Program Learning - Helping the Patient to Tell His Story." At the request of the Project Officer, the Project Director of this completed project is currently preparing further material on the subject for submission to other medical and educational publications.

V. Proposed Action to be Taken as a Result of the Findings of this Project

Subject to the recommendations of the Contractor to be presented to the Division of Physician Manpower during the month of March, a contract to evaluate the effectiveness of the preprogrammed videotape approach to certain phases of continuing medical education will be considered by DPM. This technique appears to afford great potential for application to the teaching of general medical subjects (as opposed to technically-specific medical subjects) when presented by inexperienced or nonprofessional medical instructors.